

AMMENDMENTS TO THE CLAIMS

Claims 1-14 are pending in the application. In response to the action, please amend claims 1, 2, 8, 9, and 11-14, matter to be deleted is shown in strikethrough and matter to be added is shown in underline, and add new claims 15-20, as follows.

1. (currently amended) Thin film apparatus comprising:

a) a signal layer including a continuous ~~at least one~~ signal conductor deposited on a first surface of a dielectric substrate, wherein the signal conductor is defined by a plurality of pathway portions ~~symmetrical pathways~~ that extend in adjoining relation to one another, wherein said plurality of pathway portions ~~pathways~~ are positioned to electrically interact with each other, wherein one of the pathway portions ~~pathways~~ is unbounded on one side by the others of said plurality of pathway portions ~~pathways~~ and wherein said unbounded pathway portion ~~pathway~~ exhibits a conductor width that is less than the conductor width of the others of said plurality of pathway portions ~~pathways~~;

b) a ground plane layer deposited on a second surface of said dielectric substrate;
and

c) termination means for coupling electrical signals to said signal conductor and said ground plane conductor.

2. (currently amended) Apparatus as set forth in claim 1 wherein the spacing of said unbounded pathway portion to an adjoining one of said plurality of pathway portions [pathways] is less than the spacings between the others of said plurality of pathway portions ~~pathways~~.

3. (original) Apparatus as set forth in claim 1 wherein said signal conductor and said ground layer are sputtered onto a ceramic substrate.

4. (original) Apparatus as set forth in claim 1 wherein said signal conductor comprises a plurality of serpentine windings that define a delay line.

5. (original) Apparatus as set forth in claim 1 wherein a plurality of apertures extend through said substrate and are displaced about said signal layer and aligned to couple said signal conductor to said ground plane conductor.

6. (original) Apparatus as set forth in claim 1 wherein said signal conductor defines a delay line.

7. (original) Apparatus as set forth in claim 1 wherein said substrate comprises a flexible material and said signal conductor is partitioned such that said substrate can be folded during packaging.

8. (currently amended) Thin film apparatus comprising:

a) a signal layer including a continuous ~~at least one~~ signal conductor deposited on a first surface of a dielectric substrate, wherein the signal conductor is defined by a coiled pathway having a plurality of windings that extend in parallel relation to one another, wherein one of said plurality of windings is unbounded on one side by the others of said plurality of windings, and wherein said unbounded winding exhibits a conductor width that is less than the conductor width of the others of said plurality of windings ~~and wherein the spacing of said unbounded winding to an adjoining one of said plurality of windings is less than the spacing between the others of said plurality of windings;~~

b) a ground plane layer deposited on a second surface of said dielectric substrate to substantially cover the second surface; and

c) termination means for coupling electrical signals to said signal conductor and said ground plane conductor.

9. (currently amended) Apparatus as set forth in claim 8 wherein said substrate comprises a flexible material and said signal conductor is partitioned into a plurality of coiled sections that are arranged such that said substrate can be folded during packaging to stack said coiled sections one upon another.

10. (original) Apparatus as set forth in claim 9 including a plurality of apertures that extend through said substrate and are aligned to couple said signal conductor and said ground plane conductor together.

11. (currently amended) Apparatus as set forth in claim 8 wherein said unbounded winding comprises a proximal end of said signal conductor and wherein said proximal end and a distal end of said signal conductor each exhibit a substantially identical width ~~wherein a plurality of said windings are unbounded on two sides by the others of said plurality of windings, and wherein each unbounded winding exhibits a conductor width that is less than the conductor width of the others of said plurality of windings and wherein the spacing between said proximal and distal ends to an of said unbounded windings to the adjoining winding is less than the spacing between the others of said plurality of windings.~~

12. (currently amended) Delay line apparatus comprising:

a) a signal layer including a continuous ~~at least one~~ signal conductor deposited on a first surface of a dielectric substrate, wherein the signal conductor is defined by a plurality of pathway portions ~~pathways of identical shape~~ that extend in parallel relation to one another, wherein said plurality of pathway portions ~~pathways~~ are positioned to electrically interact with each other, wherein one of the pathway portions ~~pathways~~ is unbounded on one side by the others of said plurality of pathway portions ~~pathways~~,

wherein said unbounded pathway portion exhibits a conductor width that is less than the conductor width of the others of said plurality of pathway portions ~~pathways~~ and wherein the spacing of said unbounded pathway portion to an adjoining one of said plurality of pathway portions ~~pathways~~ is less than the spacing between the others of said plurality of pathway portions ~~pathways~~;

b) a ground plane layer deposited on a second surface of said dielectric substrate to substantially cover the second surface; and

c) termination means for coupling electrical signals to said signal conductor and said ground plane conductor.

a' 13. (currently amended) Apparatus as set forth in claim 12 wherein said substrate comprises a flexible material and said signal conductor is partitioned into a plurality of coiled sections that are arranged such that said substrate can be folded during packaging to stack said coiled sections one upon another.

14. (currently amended) Delay line apparatus comprising:

a) a signal layer including a continuous ~~at least one~~ signal conductor deposited on a first surface of a dielectric substrate, wherein the signal conductor is defined by a plurality of symmetrical pathway portions ~~pathways~~ of identical shape that extend in parallel relation to one another, wherein said plurality of pathway portions ~~pathways~~ are positioned to electrically interact with each other, wherein one of the pathway portions ~~pathways~~ is unbounded on one side by the others of said plurality of pathway portions ~~pathways~~, and wherein the spacing of said unbounded pathway portion ~~pathways~~ to an adjoining one of said plurality of pathway portions ~~pathways~~ is less than the spacing between the others of said plurality of pathway portions ~~pathways~~;

b) a ground plane layer deposited on a second surface of said dielectric substrate to substantially cover the second surface; and

c) termination means for coupling electrical signals to said signal conductor and said ground plane conductor.

15. (new) Apparatus as set forth in claim 1 wherein said signal conductor exhibits a symmetrical pattern.

16. (new) Apparatus as set forth in claim 1 wherein said signal conductor exhibits a planar coil shape.

17. (new) Apparatus as set forth in claim 16 wherein said unbounded pathway portion comprises a proximal end of said signal conductor and wherein a distal end of said signal conductor exhibits a width substantially identical to the proximal end.

18. (new) Apparatus as set forth in claim 1 wherein said signal conductor is partitioned into a plurality of connected coiled sections and wherein each section includes an unbounded pathway portion of reduced width.

19. (new) Apparatus as set forth in claim 1 wherein said unbounded pathway portion comprises a proximal end and wherein a distal end of said signal conductor exhibits a width substantially identical to the proximal end.

20. (new) Apparatus as set forth in claim 8 wherein said unbounded pathway portion comprises a proximal end and wherein a distal end of said signal conductor exhibits a width substantially identical to the proximal end.

